

Pen for writing or typing on screens and/or keyboards
of electronic equipment

The present invention relates to the technological
5 sector of accessories for electronic equipment such as
computers, telephones, etc.

More particularly, it relates to the sector which
deals with the manufacture of pens suitable for writing
or typing on screens and/or keyboards of electronic
10 equipment such as computers, personal organizers,
palmtops, telephones and the like.

As is known, these pens consist of an elongated
stem which is able to be gripped - like that of a
normal pen used for writing - and is provided with a
15 coaxial cavity designed and made so as to house inside
it a rounded tip which emerges partially from it so as
to be able to perform its functions described above.

According to the present state of the art, these
tips are made of one of various synthetic resins known
20 for applications of this kind.

These resins, in addition to being prone to
abrasion, have a roughness and/or a porosity which,
although of a limited nature, result in the absorption
of small foreign bodies such as fine particles, dust,
25 etc. which, clinging to the surface of the tip, alter
the shape of the point of contact between the tip and
the object over which it must pass in order to perform
its functions.

This results, among other things, in a smaller
30 degree of precision when drawing lines on screens and
the like, in addition to wear of the said screens which
with time may adversely affect operation thereof.

The inventor of the subject of the present
invention has had the idea that all the abovementioned
35 drawbacks could be overcome by replacing the materials
used hitherto for the manufacture of the abovementioned
tips with other materials which have a much greater
abrasion resistance and are devoid of roughness and
porosity. He has therefore selected a group of

materials which are today used for applications which are totally different owing to their relatively high cost, with the idea that, in view of the small volume of a tip, the increased cost due to use of the said materials is amply offset by the far greater working life of the pen and by the absence of the abovementioned drawbacks associated with the formation of incrustations and the like which may damage the electronic equipment on which a pen is used.

The materials chosen by the inventor for manufacture of a pen tip according to the invention are: hard natural synthetic or - preferably, for costs reasons - monocrystalline stones such as ruby and sapphire, and ceramic materials, generally known as "technical ceramics". All the abovementioned materials have in common the surface hardness characteristics necessary for obtaining the advantages described above, and, by means of grinding, smoothing, brushing or other operations of the known type, an exceptionally high surface finish is obtained, without a significant degree of roughness or porosity.

The subject of the present invention therefore consists of a pen suitable for writing and/or typing, as described in the accompanying Claim 1.

A preferred example of embodiment of the pen according to the invention will now be described, with reference also to the accompanying drawings, in which:

- Figure 1 is a longitudinal cross-sectional view, on a large scale, of the said example of embodiment of the pen according to the invention, which shows the position of the tip;

- Figure 2 is a side view, on an even larger scale, of the pen tip alone according to Figure 1.

If we consider Figure 1, in said figure it can be seen how a pen 1 according to the invention comprises, as do moreover similar pens of the known type, an elongated stem 2 provided with a coaxial cavity 3 able to house a rounded tip 4, retaining it internally.

The said cavity 3 in Figure 1 extends over the

whole length of the stem 2, but could also have a smaller length, i.e. limited to the sole end portion of the stem housing the tip 4.

The above cavity 3 in the case in question is a
5 cylindrical shaped seat which is tapered outwards in the region of the tip 4 so as to retain the latter, allowing only one end 4f thereof to project outwards.

In the case considered here, the tip 4, which is illustrated more clearly in Figure 2, has the shape of
10 a cylinder with its two ends 4f, 4g spherically rounded and is made of one of the materials already listed above, namely natural or synthetic ruby or sapphire or a technical ceramic.

In order to keep the tip 4 in the desired
15 position, systems similar to those used for ball-tip pens may be used, for example, as shown in Figure 1, using a core 5 which is inserted inside the cavity 3 and may or may not be provided with a locating spring 6 and kept in position by a cap 7 mounted on the end of
20 the stem 2 opposite to that housing the tip 4.

Other types of systems for fixing the tip may be used without affecting at all the results which can be obtained with the pen according to the invention and which depend essentially on the type of material used
25 for manufacture of its tip.

A final note: in the example illustrated, both the ends 4f, 4g of the tip 4 are spherically rounded; depending on the design requirements, the tip 4 may also have a single rounded end, such as 4f intended to
30 project from the abovementioned cavity 3, or may have a spherical shape (these two cases are not shown in the drawings).